

# Paychecks v. protection: Sulfide mining in Minnesota

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The Arrowhead Region of [Minnesota](#) is home to some of the most cherished state and federal land in the nation, including the [Superior National Forest](#), [Voyaguers National Park](#) and the million-acre [Boundary Waters Canoe Area Wilderness](#). These precious tracts which are home to several threatened and/or protected species (Canada lynx, gray wolf, bald eagle, wood turtle, etc.) are currently under [exploration for the development](#) of one or more sulfide mines. Although mining is not new to the region, which has a long and storied history with iron mining, sulfide mining presents new challenges and an increased potential for negative effects on ecosystem health.

Sulfide mining is somewhat of a vague term used to describe mining of ores which contain quantities of sulfide minerals such as copper, lead, zinc and nickel. The process of mining for sulfide presents great opportunity for sulfide ore, waste rock, pit walls or the tailings to be exposed to air and moisture. When this happens a chemical reaction occurs which can create sulfuric acid. Sulfuric acid, a component of acid rain, reacts vigorously with water, creating a phenomenon known as [Acid Mine Drainage \(AMD\)](#). The most prominent attributes of such drainage are discoloration of water and smothering of fish and aquatic life in the streambed.

## **Mining projects**

Polymet Mining Corporation is the primary agent pursuing further exploration and mining of sulfides in northern Minnesota. It holds a 100 percent leasehold interest on the property dubbed the [NorthMet Project](#), which includes open pit mining operations with ore hauled to the processing facility on a largely existing rail line owned by Cliffs Erie.

NorthMet is proposed to be located approximately six miles south of the town of Babbitt, while the ore processing facility is proposed at a currently inactive taconite processing facility,

formerly owned and operated by LTV and now owned by Cliffs Erie, located five miles north of the town of Hoyt Lakes, all of which is located in St. Louis County, Minnesota.

PolyMet projects that between 490 and 600 long-term jobs would be created in the Babbitt and Hoyt Lakes area, in addition to several hundred jobs during the one-year construction phase. These figures must be weighed against the fact that the project would also generate 394 million tons of waste rock over the life of the mine requiring the annual removal of 19.7 million tons of waste rock and large swaths of organic wetland soils. Also, the mine contains sulfide mineral deposits which have the potential to leach heavy metals into the environment.

### **Plans and impact**

The Polymet's mining operations will alter land use characteristics within the project site which will have some impact on the quantity of water that leaves the mine site. Ironically, the quantitative assessment (of the impacts of the mine site on daily and storm water runoffs) was performed by Polymet itself. The Partridge River and Embarrass River watersheds are located near the project and the mining and processing activities are located in or may impact drainage basins that discharge to Lake Superior. Polymet has already spent \$18 million on permitting and environmental work.

The Environmental Protection Agency published a Complete Preliminary Draft Environmental Impact Statement (CPDEIS) in December 2008. The Minnesota Department of Natural Resources and the United States Corps of Engineers served as co-lead agencies in the production of the CPDEIS.

This report states that Polymet intends to utilize three open-pit mines with an approximate combined area of 450 acres and depths ranging from 550 to 840 feet below ground surface. Blasting would occur every two or three days with an annual amount of blasting agents exceeding 5.2 million pounds.

The proposed action would impact an estimated 1,197 acres of wetlands, including 869 acres directly affected and 328 acres indirectly affected. Fragmentation of wetlands due to the construction of haul roads, dikes and stockpiles will further adversely affect the function of remaining wetlands within the mine site. Over 90 percent of the wetland areas to be affected are "high quality" and mostly of native origin.

### **Solutions, and possible effects**

The solution proposed by Polymet is the placement of waste rock back into the east pit thereby reducing the overall footprint of the stockpiles. It is unknown whether impacts relating to seepage from the tailings basin will extend beyond the historically affected area.

Effects on wildlife were also assessed in the CPDEIS and it was noted that although surveys did not find any evidence of [lynx](#) use at the project site, at least 20 different individual lynx were identified within 18 miles of the site. The project is located within the designated critical habitat for the gray wolf, but it was deemed that the "relatively small overall footprint" of the mine would equate to a maximum of 10 percent of a wolf pack territory. The area is saturated with bald eagle nesting territories, meaning that introductions to that population would force eagles to

move into closer proximity to human activity. No direct impacts are expected relating to the wood turtle, due to the "lack of suitable habitat" at the project site.

The non-profit advocacy group [Friends of the Boundary Waters Wilderness](#) has taken a leading role in opposition to the proposed operations. They [cite](#) that Fraconia Minerals Corp. "is considering a mine that would actually be underneath Birch Lake, which is located near Ely where the South Kawishiwi River flows out of the BWCAW, before flowing through the White Iron chain of lakes and back into the wilderness" and that "Franconia and other companies are also looking to mine even closer to the Boundary Waters, along the shores of the South Kawishiwi and in areas south and east of Bald Eagle Lake and Gabbro Lakes in the wilderness."

The balance between development and conservation is a finicky one, and in these uncertain economic times it is easy to see why some would push for paychecks (jobs) over protection (of the environment and human health). But it is important to remember that if development and "progress" reign supreme and serve as catch-all remedies, we will eventually run out of solutions and be left with a land lacking in its ability to provide necessities and devoid of even the simplest aesthetic pleasure.

*The DNR and U.S. Army Corps of Engineers are currently planning to hold two public information meetings during the public comment period. One is likely to be in Hoyt Lakes, the other in the Twin Cities Metropolitan Area.*

*You may also send questions or comments by email (be sure to include "PolyMet" in the subject line) to [Environmental.Review@dnr.state.mn.us](mailto:Environmental.Review@dnr.state.mn.us).*

Photo: MN DNR

Article found at:

<http://www.mnn.com/local-reports/minnesota/local-blog/paychecks-v-protection-sulfide-mining-in-minnesota>